INTERNATIONAL PACIFIC HALIBUT COMMISSION

Stock projections and harvest decision table for 2026-2028

Agenda items: 7.1 and 7.2

IPHC-2026-AM102-12

(I. Stewart & A. Hicks)

Projections and harvest decision table for 2026

- Projects a constant TCEY for the next 3 years
- Implements all catch sharing plans/agreements; uses 3-year average non-directed discard mortality, previous year's subsistence and unguided recreational mortality (where applicable)
- Include a range of mortality levels:
  - No fishing
  - *Status quo +/- 5 and 10%*
  - *3-year surplus production*
  - $F_{43\%}$ *Reference*
  - $F_{40\%}$ Maximum Economic Yield (*MEY*) proxy
  - $F_{35\%}$ Maximum Sustainable Yield (*MSY*) proxy/Overfishing limit
- Calculate the probabilities of: stock decline, dropping below stock reference points, fishery decline (to get to $F_{43\%}$ in the future), exceeding the reference $F_{43\%}$ and overfishing limit $F_{35\%}$ fishing intensity in 2026

Reading the decision table

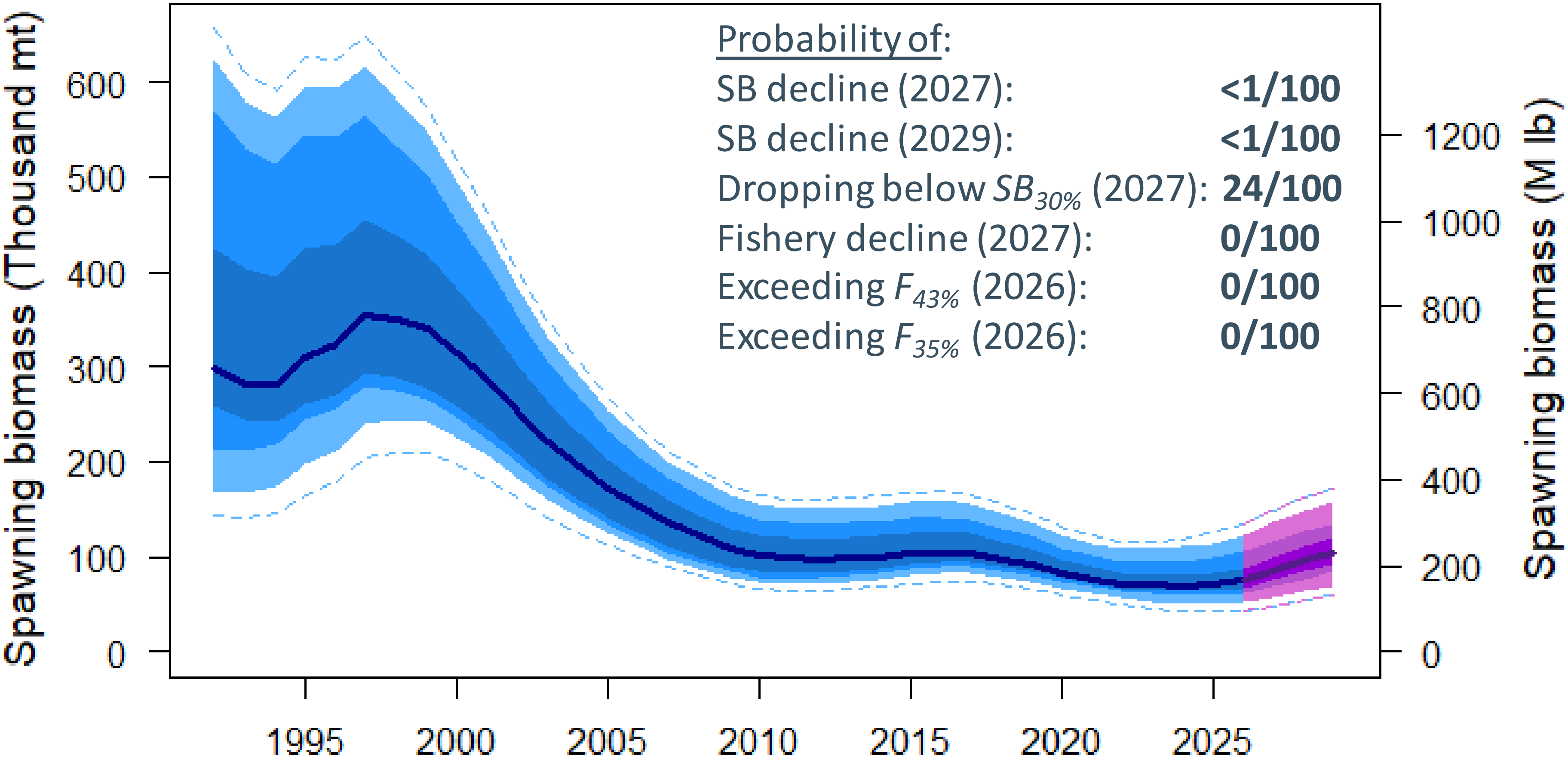
Yields: low → high

Risk metrics

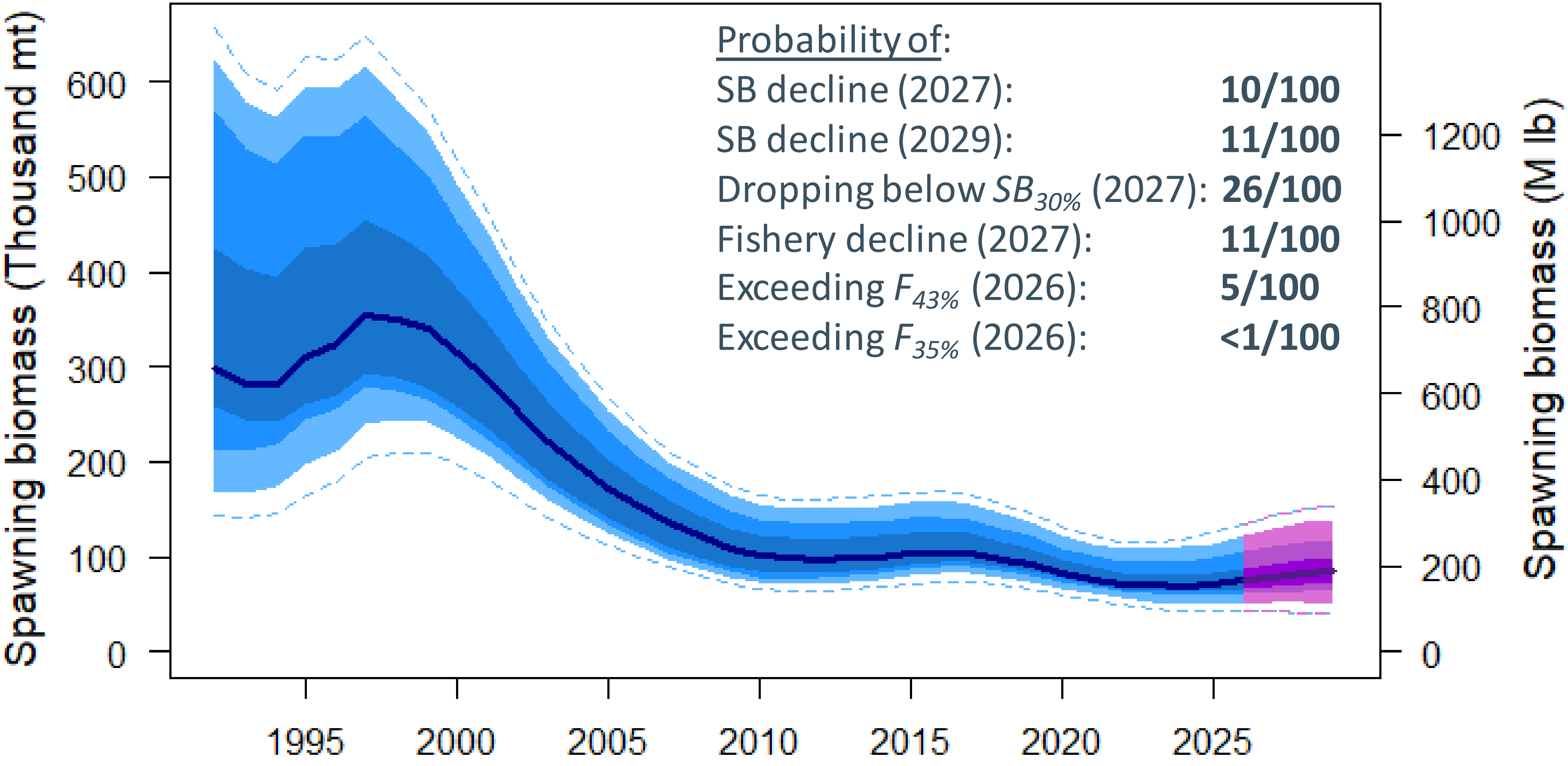
Estimated risks

		2026 Alternative			Status quo -10%	Status quo -5%	Status quo	Status quo +5%	Status quo +10%	$F_{46\%}$	3-Year Surplus / $F_{43\%}$	MEY proxy	Overfishing limit	
		Total mortality (M lb)	0.0	21.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	53.7	
		TCEY (M lb)	0.0	20.0	[illegible]	[illegible]	[illegible]	[illegible]	32.7	35.1	[illegible]	[illegible]	51.9	
		2026 fishing intensity	$F_{100\%}$	$F_{62\%}$	$F_{54\%}$	$F_{52\%}$	$F_{51\%}$	$F_{49\%}$	$F_{48\%}$	$F_{46\%}$	$F_{43\%}$	$F_{40\%}$	$F_{35\%}$	
		Fishing intensity interval	--	47-77%	39-71%	37-70%	36-69%	34-68%	33-67%	31-65%	28-62%	26-59%	22-54%	
Stock Trend (spawning biomass)	in 2027	is less than 2026	<1	3	10	12	15	18	22	28	40	54	80	a
		is 5% less than 2026	<1	<1	1	1	2	2	3	4	8	14	32	b
	in 2028	is less than 2026	<1	2	8	10	13	16	19	26	38	54	82	c
		is 5% less than 2026	<1	<1	2	3	4	5	7	10	17	28	55	d
	in 2029	is less than 2026	<1	3	11	14	18	22	27	35	50	68	91	e
		is 5% less than 2026	<1	1	5	6	8	11	13	19	30	46	77	f
Stock Status (Spawning biomass)	in 2027	is less than 30%	24	25	26	26	26	26	26	26	26	26	27	g
		is less than 20%	<1	<1	<1	1	1	1	1	1	1	1	2	h
	in 2028	is less than 30%	14	22	23	24	24	24	24	25	25	26	27	i
		is less than 20%	<1	<1	[illegible]	[illegible]	<1	[illegible]	1	1	[illegible]	2	3	j
	in 2029	is less than 30%	5	17	20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27	k
		is less than 20%	<1	<1	<1	<1	1	1	1	1	2	3	6	l
Fishery Trend (TCEY)	in 2027	is less than 2026	0	<1	11	16	20	25	30	37	49	60	75	m
		is 10% less than 2026	0	<1	4	9	10	14	18	25	35	47	65	n
	in 2028	is less than 2026	0	<1	11	15	20	24	29	37	50	61	78	o
		is 10% less than 2026	0	<1	4	10	10	14	18	25	36	49	68	p
	in 2029	is less than 2026	0	1	11	15	10	25	30	39	53	65	82	q
		is 10% less than 2026	0	<1	5	10	11	15	19	26	39	53	73	r
Fishery Status (Fishing intensity)	in 2026	is above $F_{43\%}$	0	<1	13	18	23	27	32	39	50	60	73	s

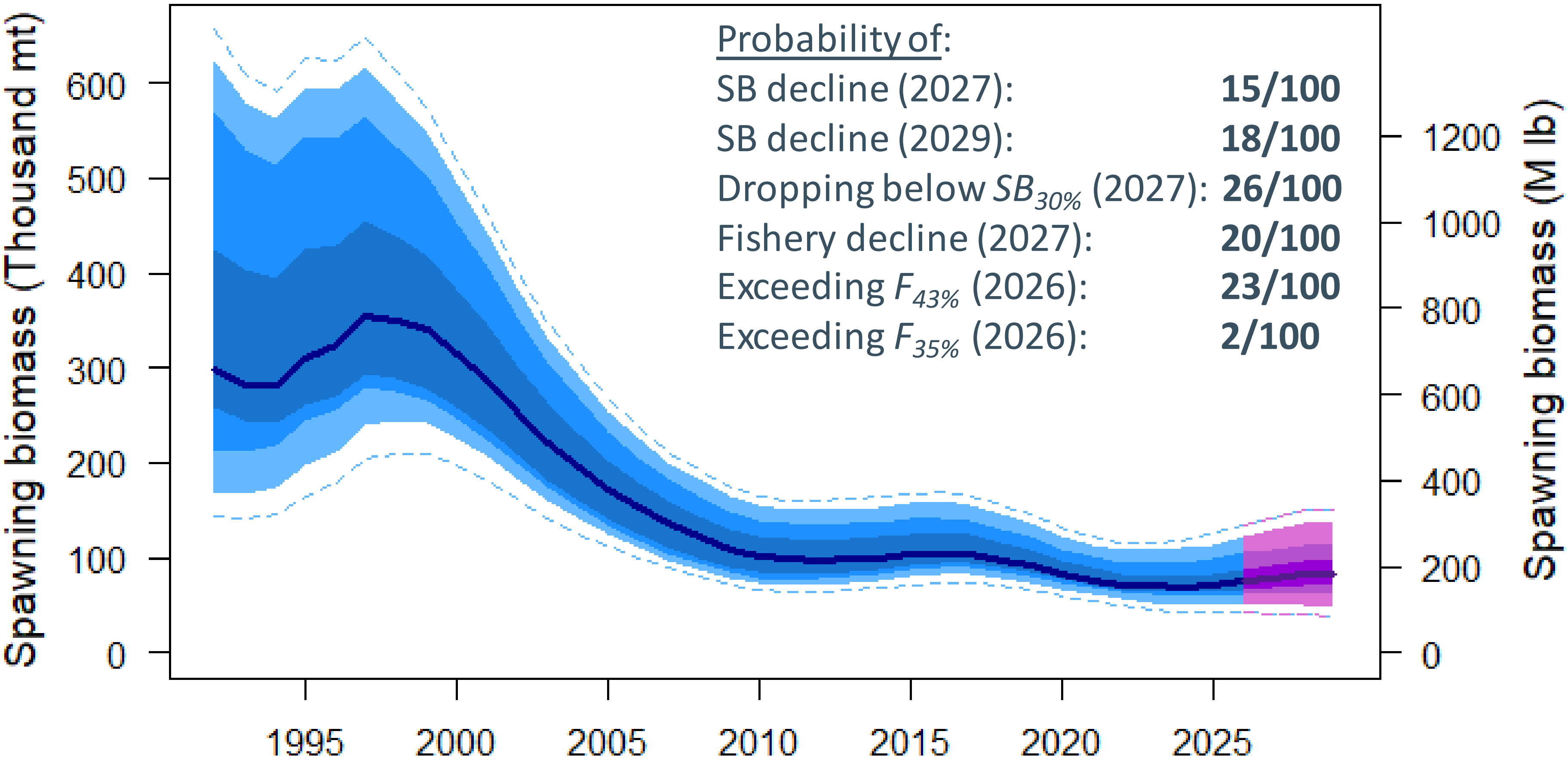
Projections: no fishing mortality (TCEY = 0; SPR = 100%)



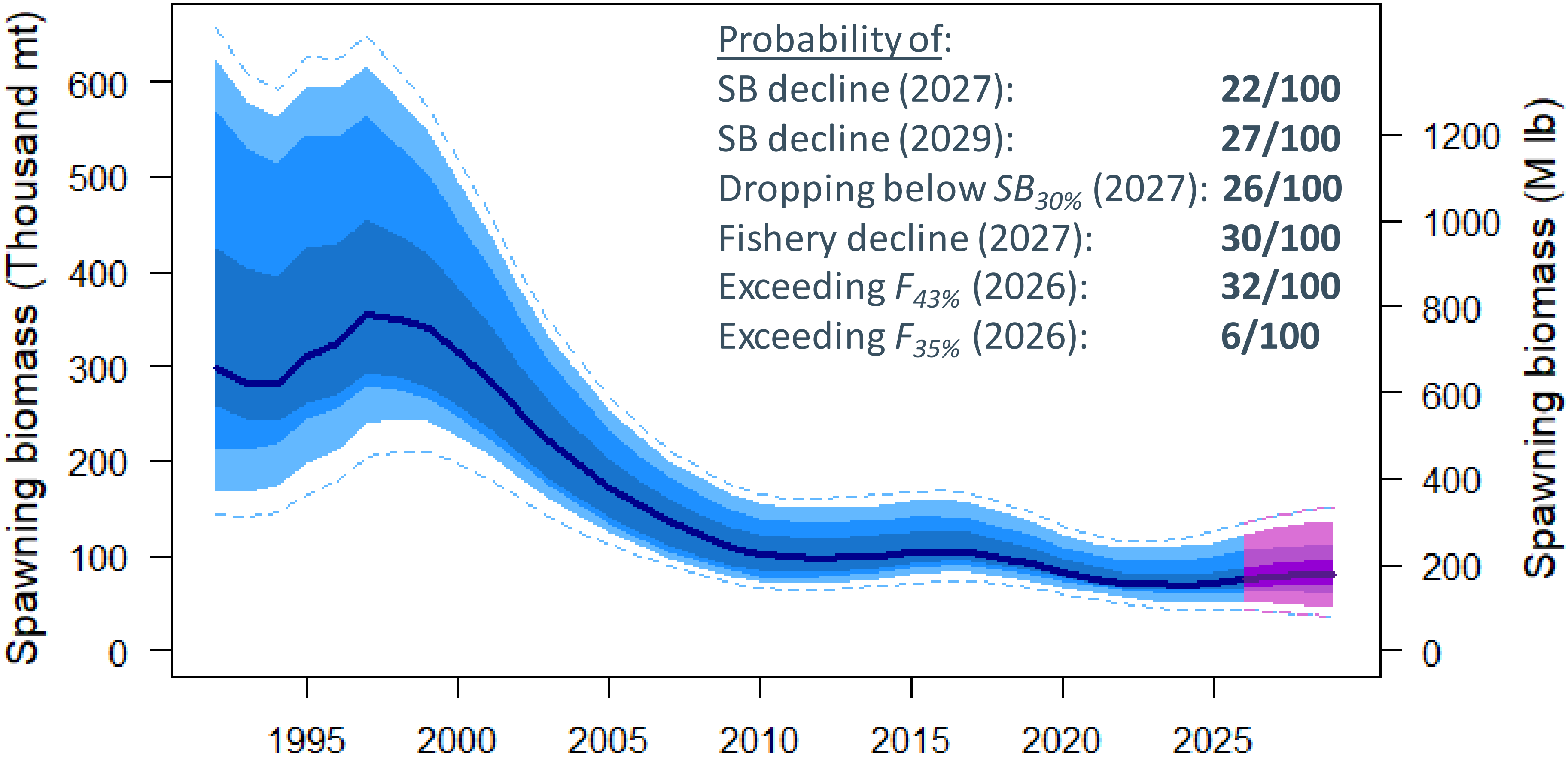
Projections: status quo -10% (TCEY = 26.75 Mlb; SPR = 54%)



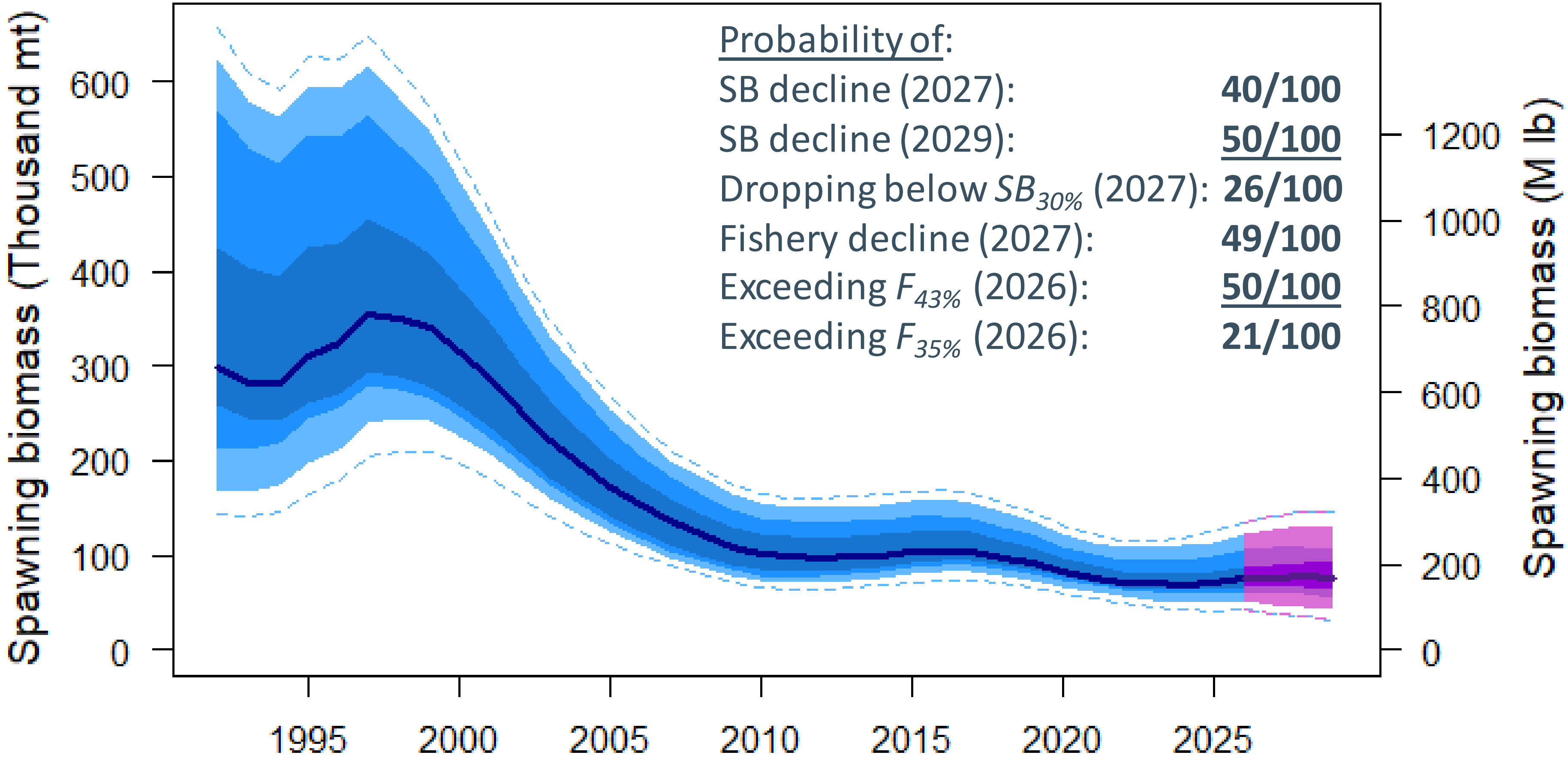
Projections: status quo (TCEY = 29.72 Mlb; SPR = 51%)



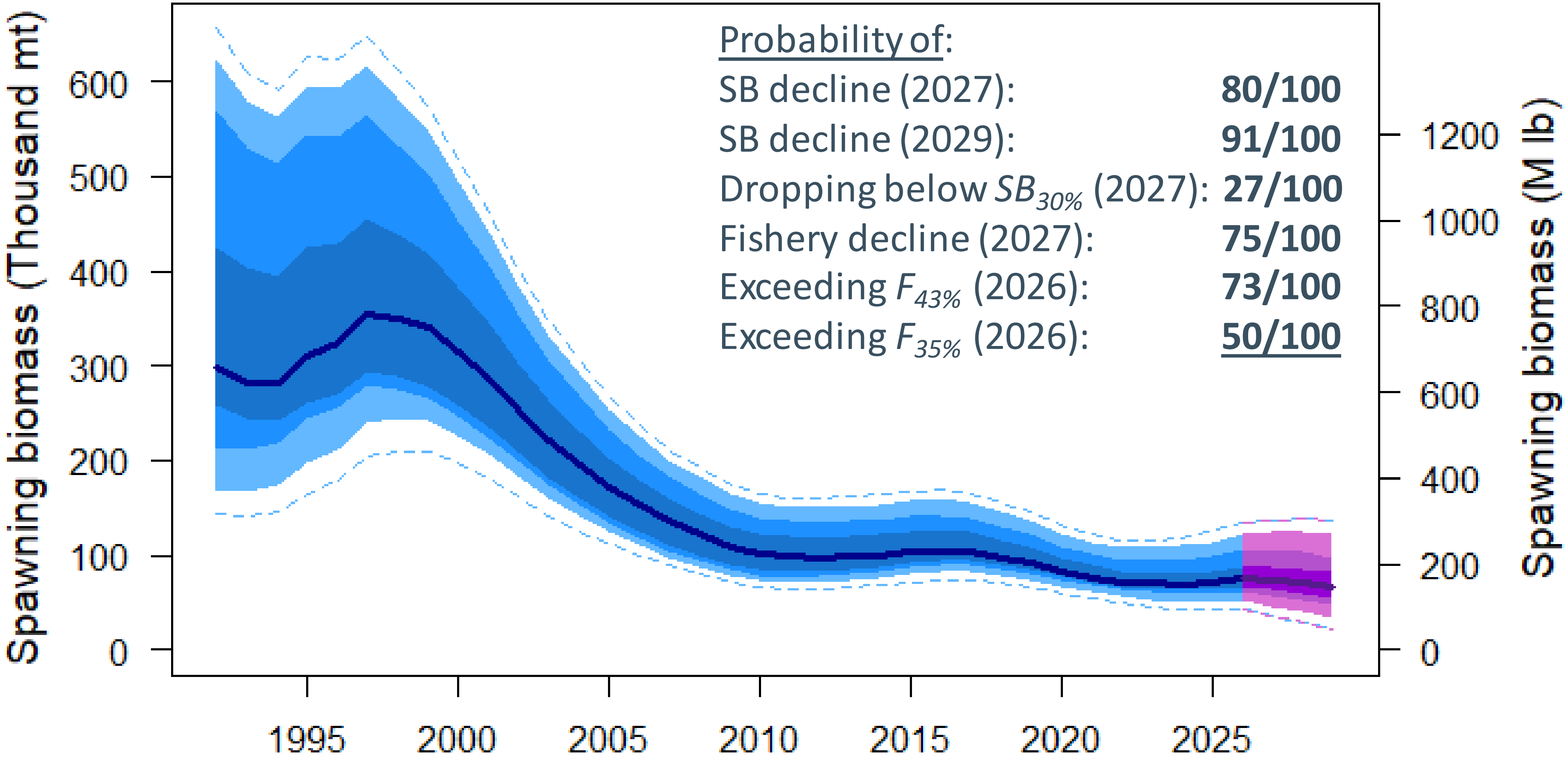
Projections: status quo + 10% (TCEY = 32.69 Mlb; SPR = 48%)



Projections: 3-Year surplus/Reference (TCEY = 38.95 Mlb; SPR = 43%)



Projections: MSY proxy (TCEY = 51.88 Mlb; SPR = 35%)



Harvest decision table

2026 Alternative					Status quo -10%	Status quo -5%	Status quo	Status quo +5%	Status quo +10%	$F_{46\%}$	3-Year Surplus / $F_{43\%}$	MEY proxy	Overfishing limit	
		Total mortality (M lb)	0.0	21.9	28.6	30.1	31.6	33.1	34.6	37.0	40.8	45.1	53.7	
		TCEY (M lb)	0.0	20.0	26.8	28.2	29.7	31.2	32.7	35.1	39.0	43.3	51.9	
		2026 fishing intensity	$F_{100\%}$	$F_{62\%}$	$F_{54\%}$	$F_{52\%}$	$F_{51\%}$	$F_{49\%}$	$F_{48\%}$	$F_{46\%}$	$F_{43\%}$	$F_{40\%}$	$F_{35\%}$	
		Fishing intensity interval	--	47-77%	39-71%	37-70%	36-69%	34-68%	33-67%	31-65%	28-62%	26-59%	22-54%	
Stock Trend (spawning biomass)	in 2027	is less than 2026	<1	3	10	12	15	18	22	28	40	54	80	a
		is 5% less than 2026	<1	<1	1	1	2	2	3	4	8	14	32	b
	in 2028	is less than 2026	<1	2	8	10	13	16	19	26	38	54	82	c
		is 5% less than 2026	<1	<1	2	3	4	5	7	10	17	28	55	d
	in 2029	is less than 2026	<1	3	11	14	18	22	27	35	50	68	91	e
		is 5% less than 2026	<1	1	5	6	8	11	13	19	30	46	77	f
Stock Status (Spawning biomass)	in 2027	is less than 30%	24	25	26	26	26	26	26	26	26	26	27	g
		is less than 20%	<1	<1	<1	1	1	1	1	1	1	1	2	h
	in 2028	is less than 30%	14	22	23	24	24	24	24	25	25	26	27	i
		is less than 20%	<1	<1	<1	<1	<1	1	1	1	1	2	3	j
	in 2029	is less than 30%	5	17	20	21	22	22	23	23	24	25	27	k
		is less than 20%	<1	<1	<1	<1	1	1	1	1	2	3	6	l
Fishery Trend (TCEY)	in 2027	is less than 2026	0	<1	11	16	20	25	30	37	49	60	75	m
		is 10% less than 2026	0	<1	4	9	10	14	18	25	35	47	65	n
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	in 2029	is less than 2026	0	1	11	15	10	25	30	39	53	65	82	q
		is 10% less than 2026	0	<1	5	10	11	15	19	26	39	53	73	r
Fishery Status (Fishing intensity)	in 2026	is above $F_{43\%}$	0	<1	13	18	23	27	32	39	50	60	73	s
		is above $F_{35\%}$	0	<1	<1	1	2	4	6	11	21	32	50	s

Projection summary

- Poor recruitment and low weight-at-age continue and are limiting 3-year yields, even if strong year-classes emerge in the future
- These projections include the rapidly-maturing 2016 & 2017 year-classes
- *Additional risks not included in the decision table:*
  - Stock remains at or near historically low spawning biomass
  - Continued low catch rates in the FISS and directed commercial fishery
  - Causes of ongoing low productivity remain unknown

Recent adopted TCEYs

	2A	2B	2C	3A	3B	4A	4B	4CDE	Total
2013	1.11	7.78	5.02	17.07	5.87	2.43	1.93	4.28	45.48
2014	1.11	7.64	5.47	12.05	3.73	1.56	1.49	3.58	36.65
2015	1.06	7.91	6.20	13.00	3.72	1.96	1.53	4.27	39.63
2016	1.26	8.24	6.54	12.75	3.41	1.95	1.37	4.07	39.59
2017	1.47	8.32	7.04	12.96	3.98	1.80	1.34	3.84	40.74
2018	1.32	7.10	6.34	12.54	3.27	1.74	1.28	3.62	37.21
2019	1.65	6.83	6.34	13.50	2.90	1.94	1.45	4.00	38.61
2020	1.65	6.83	5.85	12.20	3.12	1.75	1.31	3.90	36.60
2021	1.65	7.00	5.80	14.00	3.12	2.05	1.40	3.98	39.00
2022	1.65	7.56	5.91	14.55	3.90	2.10	1.45	4.10	41.22
2023	1.65	6.78	5.85	12.08	3.67	1.73	1.36	3.85	36.97
2024	1.65	6.47	5.79	11.36	3.45	1.61	1.25	3.70	35.28
2025	1.65	5.45	5.22	9.08	2.86	1.34	1.04	3.08	29.72

Recent adopted TCEYs

	2A	2B	2C	3A	3B	4A	4B	4CDE	Total	TCEY from reference SPR Coastwide	
2013	1.11	7.78	5.02	17.07	5.87	2.43	1.93	4.28	45.48	36.63	"Blue line"
2014	1.11	7.64	5.47	12.05	3.73	1.56	1.49	3.58	36.65	33.48	
2015	1.06	7.91	6.20	13.00	3.72	1.96	1.53	4.27	39.63	35.48	
2016	1.26	8.24	6.54	12.75	3.41	1.95	1.37	4.07	39.59	36.31	$F_{46\%}$
2017	1.47	8.32	7.04	12.96	3.98	1.80	1.34	3.84	40.74	39.10	
2018	1.32	7.10	6.34	12.54	3.27	1.74	1.28	3.62	37.21	31.00	
2019	1.65	6.83	6.34	13.50	2.90	1.94	1.45	4.00	38.61	40.00	
2020	1.65	6.83	5.85	12.20	3.12	1.75	1.31	3.90	36.60	31.90	
2021	1.65	7.00	5.80	14.00	3.12	2.05	1.40	3.98	39.00	39.00	$F_{43\%}$
2022	1.65	7.56	5.91	14.55	3.90	2.10	1.45	4.10	41.22	41.22	
2023	1.65	6.78	5.85	12.08	3.67	1.73	1.36	3.85	36.97	51.95	
2024	1.65	6.47	5.79	11.36	3.45	1.61	1.25	3.70	35.28	48.88	
2025	1.65	5.45	5.22	9.08	2.86	1.34	1.04	3.08	29.72	39.83	
2026										38.95	

Mortality projection tool for 2026

- https://www.iphc.int/projection-tool/
- *IPHC-2026-AM102-INF02* describes the mortality projection tool.
- Provides detailed mortality projections by IPHC Regulatory Area and fishery sector
  - All Catch Sharing Plans/Agreements are applied
- There is currently no reference distribution procedure specified in the Harvest Strategy Policy

Mortality projection tool for 2026

Two ways to use the tool:

1) For distribution across all Regulatory Areas, input:

- Coastwide TCEY,
- Percentages assigned to each Regulatory Area

  (or Area-specific TCEYs and the sheet will convert to percentages)

2) To evaluate allocations within a single Regulatory Area, input:

- Area-specific TCEY as the coastwide total,
- 100% for the Regulatory Area of interest (0% for all other areas)

Recommendations

That the Commission:

1) **NOTE** paper IPHC-2026-AM102-12, which provides a summary of projections and the harvest decision table for 2026-2028.
2) **REQUEST** any additional harvest decision table alternatives for evaluation during AM102.
3) **REQUEST** any detailed mortality projections for 2026 (by IPHC Regulatory Area and fishery sector) for evaluation during AM102.

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